

**U.S. DEPARTMENT OF THE INTERIOR
U.S. GEOLOGICAL SURVEY**

**GEOLOGY AND STRUCTURE
OF THE
PINE RIVER, FLORIDA RIVER, CARBON JUNCTION,
AND
BASIN CREEK GAS SEEPS,
LA PLATA COUNTY, COLORADO**

by

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INTRODUCTION

This study was commissioned by a consortium consisting of the Bureau of Land Management, Durango Office; the Colorado Oil and Gas Conservation Commission; La Plata County; and all of the major gas-producing companies operating in La Plata County, Colorado. The gas-seep study project consisted of four parts; 1) detailed surface mapping of Fruitland Formation coal outcrops in the above listed seep areas, 2) detailed measurement of joint and fracture patterns in the seep areas, 3) detailed coal-bed correlation of Fruitland coals in the subsurface adjacent to the seep areas, and 4) studies of deep-seated seismic patterns in those seep areas where seismic data was available. This report is divided into three chapters labeled 1, 2, and 3. Chapter 1 contains the results of the subsurface coal-bed correlation study, chapter 2 contains the results of the surface geologic mapping and joint measurement study, and chapter 3, contains the results of the deep-seismic study.

A preliminary draft of this report was submitted to the La Plata County Group in September 1996. All of the members of the La Plata Group were given an opportunity to critically review the draft report and their comments were the basis for revising the first draft to create this final version of a geologic report on the major La Plata County gas seeps located north of the Southern Ute Indian Reservation.